

DUE DATE _____

Cells: The Basic Unit of Life

Objective: Be creative to design a 2D model of a plant or animal cell and its organelles. As you work through the activity, use the rubric below as a guide to earning your grade.

Procedure

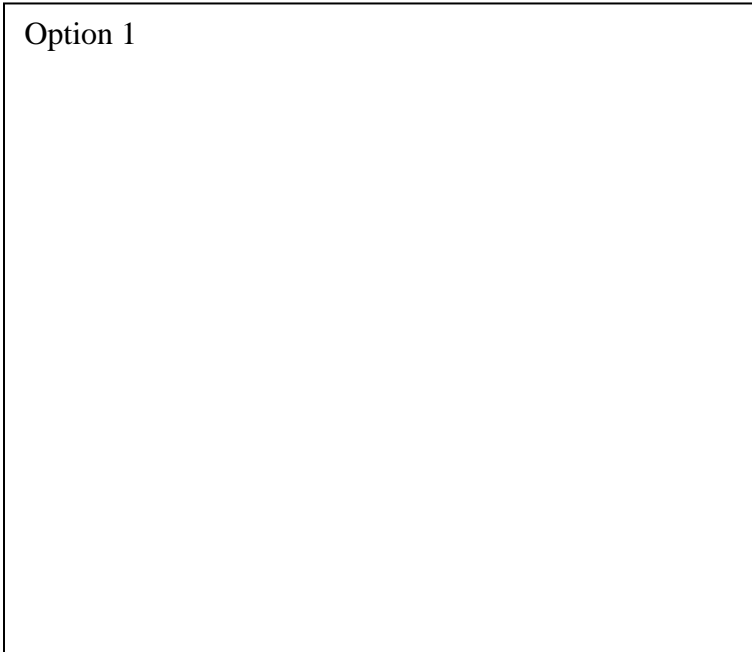
1. Use materials to design a plant or animal cell diagram. Your cell diagram should be flat (2D), NOT a three dimensional model; I want to hang your projects on the walls inside and outside of the room!
Follow the material guideline below.
2. Your 2D Model must label cellular organelles and describe their function.
3. Complete a key to describe functions of the organelles which should be visible from the front (not attached to the back).
**Deduct 5 points for each day the project is late.*

Material Guidelines

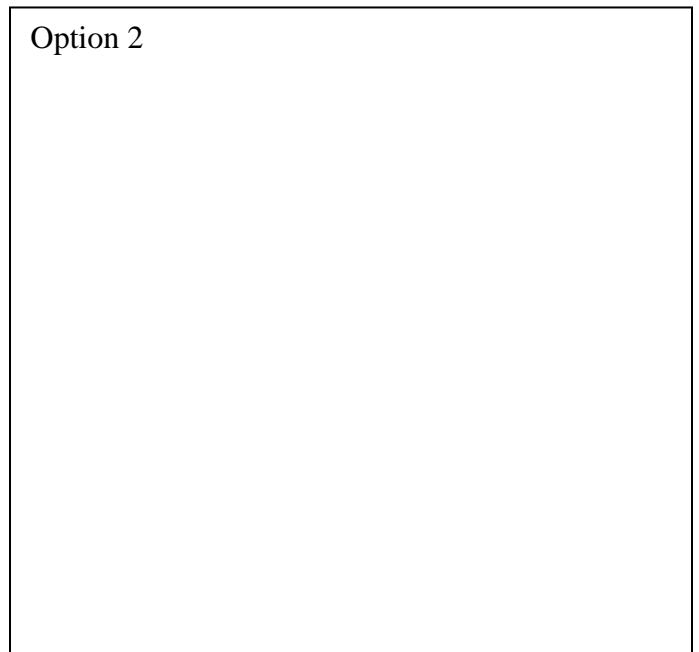
- Your paper background can consist of watercolor paper, construction paper, or poster board **no larger than 12 x 18** inches.
- Dry foods such as seeds, beans, nuts, pasta (**NO SUGARS/FOODS THAT SPOIL**) can be used if you are able to glue them to the poster without it falling off.
- Small items such as beads, pipe cleaners, straw, buttons, yarn, thread, ribbons, shoestrings, elastic, etc.
- Use magazine and newspaper clippings, scrapbooking items, and construction paper, puffy paint, watercolors, color pencils, crayons, markers...Whatever!
- You may create a themed cell for example a construction site, a concert, a farm, school cafeteria, an office building...
- Use your *creativity and imagination*. **HAVE FUN!**

2D Cell Model Project Planning

Option 1



Option 2



Materials You May Need:

Materials You May Need:

Name _____ Subject _____

Due Date _____ Turn in Date _____

Cell Project Checklist

_____ / 6 Points: Labeled as a Plant or Animal Cell

_____ / 12 Points: Organelles (one point each)

- | | |
|------------------------|-------------------|
| -cell membrane | -mitochondria |
| -nucleus | -ribosomes |
| -nucleolus | -chromatin |
| -vacuoles | -Golgi body |
| -Endoplasmic Reticulum | -Cytoplasm |
| -Lysosomes | -Nuclear envelope |

*For Plant Cells: *include* Cell Wall & Chloroplasts; *delete* Lysosomes

_____ / 12 Points Organelle Functions defined (one point each)

- | | |
|------------------------|-------------------|
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_____ / 25 Points for Constructive Design: Each criterion rated on a scale of 1 to 5 (5 being the greatest effort)

- Unique materials
- Demonstrates perspective: appropriate organelle size and shape
- Colorful
- Neat (information is typed; not quickly or poorly done)
- Orderly (information is arranged in a visually appealing format, organized key, easy to reference)

_____ / 25 Points for correct display of Cell Respiration or Photosynthesis equation with labels for each molecule

_____ / 10 Points for Macromolecules- Indicate a single location, (although there are many), for the following macromolecules:

- Lipids --Proteins --Water --Nucleic Acids --Carbohydrates

_____ / 10 Points for Transport: Describe or show one type of Active or Passive Transport

- Osmosis - diffusion -transport proteins -transport by engulfing